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Our Stinger Not a Chicagoan.—We notice in one of our exchanges that "The Stinger," who gets his "Random Stings" in the BEE JOURNAL now-a-days, is supposed to be a Chicagoan. This is a mistake. "The Stinger" lives more than 40 miles away from Chicago, and does not get into this city oftener than about once in 2½ life-times. No, no; Chicago has nearly everything under the sun, but she hasn't a single "stinger," as has another town, for The Stinger is *single*, or at least was the last time he was *stinging*.

Prof. Cook and family leave for Pomona, Calif., about Dec. 1st, where they expect to locate permanently. The Professor's Eastern friends will likely hear some good things about him and his new home as soon as he gets settled, and has the time to tell us about them. The BEE JOURNAL don't propose to lose sight of Prof. Cook, no matter where he goes. Oh, but won't those California folks feel big, when they once have the Professor and his excellent family located among them? Well, we couldn't honestly blame the Californians any, for we don't want to be selfish, and especially after having him almost in our midst for so many years.

Father Langstroth is heard from again. Immediately after the North American convention, we sent him a check, and in acknowledging it he wrote as follows:

MR. GEORGE W. YORK.

My Dear Friend:—You can easily imagine how painful a thing it is for me to have my straightened circumstances brought before my bee-keeping friends. I have been confined to the house almost all the time for the last year, and in addition to my old head trouble, I have suffered much from swelling in my limbs. I desire, through you, to be affectionately remembered to all who have contributed to my relief.

Friend York, I want you to know how much I have been helped. It has all been needed for fuel, clothing, and things absolutely necessary for comfort; without it, I do not see how I should have been able to provide them. Yours affectionately,

L. L. LANGSTROTH.

Dear friends, don't you think, after reading the foregoing letter, that the very least any of us can do for Father Langstroth, is too see that he is supplied with the necessities of life, during his last years? If you have not yet contributed anything to the "Langstroth Fund," why not do so now, or soon, so that he may receive regularly from $10 to $25 a month? If you do not care to send it to us first, why mail your contribution to him, at 120 Ford St., Dayton, Ohio. We do not here plead for ourselves, but for him who has bestowed an everlasting blessing upon apiculture, and made possible the advanced bee-keeping of to-day.

A Railroad Accident on the morning of Oct. 20th, near Battle Creek, Mich., resulted in the death of some 30 people, among whom, we learned with sadness, were Mr. and Mrs. Chas. C. Van Deusen, of Sprout Brook, N. Y. Mr. Van Deusen was

a son of the senior member of the fine firm of J. Van Deusen & Sons, the well-known flat-bottom comb foundation manufacturers. All the bee-keeping world will read this with sincere regret, and extend to the stricken relatives their most earnest sympathy in this very sad bereavement.

Mr. and Mrs. Van Deusen were on their way to visit the World's Fair, when through some carelessness of the railroad employees they were overtaken by death when two trains met in the collision referred to. Mr. V. was injured, and died within an hour or so after the accident, but his wife was burned to death in full view of those who tried in every way to rescue her, but could not, as she was pinned in the broken cars. The account of her martyr-like death, as portrayed by the daily newspapers, is too horrible for reproduction here. When she saw that death was inevitable, she gave one agonizing wail, and then her woman's weakness gave way to her martyr strength. "I can die; oh yes, I can die if I must," she said. "I am a Christian," she also said, and a moment later her voice was raised in prayer. Oh, it was a terrible death! Strong men wept at the heart-rending sight that they were so powerless to prevent. But at last the praying lips were stilled, and the soul of the brave Mrs. Van Deusen passed into eternal glory.

Ah, scoffers at the true Christian's faith, hide your heads in shame, and pause ere you again speak lightly of that which helps martyrs to bear up under persecution, and even welcome death by the torturing flames. Our brother and sister were called very suddenly and unexpectedly from their earthly existence, and none of us know when we, too, may be summoned. Oh, that we all might have that trusting faith, and abiding "hope" which we all can "have as an anchor of the soul, both sure and steadfast, and which entereth into that within the vail."

The Van Deusen comb-foundation exhibit at the World's Fair was at once appropriately decorated in emblems of mourning, in memory of the departed member of the firm.

Not Subsidized!—Because we took occasion to speak favorably of a certain prominent firm's production recently, since then it has been hinted that the AMERICAN BEE JOURNAL was perhaps "subsidized" by that firm. Not much! The BEE JOURNAL is as free as anything can be, to express its approval or condemnation, just whichever it sees fit to bestow. Neither is the BEE JOURNAL published in the interest of any particular bee-supply firm. It is here to furnish purely bee-literature, and to represent the best interests of its partners—the regular subscribers. That its usefulness may be greatly extended, let all turn in and aid in increasing its number of weekly readers. With a list of 15 or 20 thousand annual subscribers, what a power the BEE JOURNAL could be! If you, brother or sister, would like to know more definitely what kind of "a power" we have in mind, just begin to help make it possible to realize our ideal, by securing the above number of subscribers, and then you'll soon see the "power" manifesting itself.

Apicultural Experiments. — On page 563 we give another of the interesting reports prepared by Hon. R. L. Taylor, of the Michigan Apicultural Experiment Station. This time it is about the value of comb foundation in the brood-chamber, and shows that Mr. Taylor has made some exceedingly fine experiments on this subject.

We believe that so far we have published every report of the experiments made at the Michigan apiary, that Mr. Taylor has written. Besides, we also reprinted an article written by him for the *Grange Visitor*, a rural periodical published in Michigan. As Mr. Taylor's work is paid for out of public money, his reports belong to the public, or to all the bee-papers that care to publish them.

At the recent North American convention, during our unavoidable absence from a portion of the first session of the second day, it seems that Mr. Taylor advised everybody to subscribe for the *Bee-Keepers' Review*, as it contained all of his reports of experiments. At least so we were afterward informed. Had we been present at the time, we could, in justice to the BEE JOURNAL, have reminded the convention that this paper had not only so far printed all his reports, but that it expected to continue to do so. We were surprised that Mr. Taylor could have so thoughtlessly injured the *Review*, whose editor, we are very certain, would not wish its friends to take any undue advantage in order to advertise

it. We mention this here, as we were not present when Bro. Taylor made his uncalled-for remark, and that such an unkind thing may not occur again. *We* most assuredly would not thank any of our would-be friends to advocate before a public gathering of bee-keepers, the taking of the BEE JOURNAL. It could but result in injury to our journal, and be a gross injustice to our brother editors and their papers. Private recommendation, however, is all right.

We mention this matter in all kindness, for we feel sure that Bro. Taylor's intentions were highly commendable, and that he did not contemplate the ill-effect that we learn was visible.

Convention Photographs.—Bro. Hutchinson's love for his new hobby, photography, is so great that it led him to bring his camera with him to the late convention in Chicago, where he made several photographs of the bee-keepers present. Of these, two are fairly good, showing most of the faces quite clearly. One of the pictures is the interior view, showing the bee-keepers in the hall, and the other is the group that gathered on the steps of the hotel towards evening on the first day of the convention. He can furnish these photographs at 50 cents each. He also made excellent photographs of nearly all of the honey exhibits at the World's Fair, which he can furnish at the same price. The size of the pictures is 5x8 inches. Address Bro. H. at Flint, Mich., and get what pictures you want.

Convention Badges.—There are about forty of the beautiful Badges left over, of those used at the recent meeting of the North American. These we offer as "souvenirs" of the Columbian meeting. Price, postpaid, 15 cents each, or two for 25 cents. Whatever is realized on the sale of these Badges will be turned into the treasury of the Association. Don't you want one, reader, to keep as a memento, even though you were not fortunate enough to be present? They are red, with pin at the back, and neat bow of white and blue ribbon at the top. It is a patriotic Badge, as you will note that red, white and blue are represented in its make-up. Better have this neat and pretty souvenir.

GENERAL QUESTIONS.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Correct Space Between Top-Bars.

I would like to know through the BEE JOURNAL what is the correct space between the top-bars ¼, 5/16, or ⅜ of an inch. I find that with 5/16 space there is very little brace-comb on the frames, but with ⅜ thore is a good deal. I use the Hoffman frames, and I put strips on the side of some to see how it would work 1/16 thick, and no brace or burr combs either were on the frames; but I would like to know which is the correct space. G. D. LITTOOY.

Tacoma, Wash.

ANSWER.—Your question is one that has not received a great deal of attention, probably not as much as its importance demands. Thickness of top-bars, and space above top-bars, are the things that have been mostly considered in preventing brace and burr combs, but the space between top-bars has undoubtedly much to do in the case. In a late number of *Gleanings*, Dr. Miller gave an account of some experiments he had made which seemed to point to the conclusion that the best space between top-bars is ¼ inch. With that space he had no brace-combs, and he also used the argument that ¼ inch is the space that bees of their own accord leave between two surfaces of sealed honey, or between a separator and a surface of sealed honey.

You have undoubtedly reached the correct conclusion that ⅜ space is too much. The question lies between ¼ and 5/16. You find very little with 5/16, and the Doctor found none with ¼. You will do well to try ¼. There is just a possibility that with continued usage there may be propolis in the ¼ space, but it seems hardly probable, if that is the space the bees leave between sealed combs.

Eupatorium or Boneset.

I enclose a bunch of white blossoms that grow in the river bottoms here. We seldom see it on the upland. Bees work on it only in the afternoon—they fairly

swarm on the weed. They have not worked on it for three weeks. We had quite a frost about three weeks ago. The weed is from 4 to 5 feet high, and is in a kind of a woolly state now, the blossom, I mean. Some of the old men here call it boneset, but I don't think it is. It is not what I call boneset.

Riverton, Ills. C. V. MANN.

Prof. Cook says this about the plant that Mr. Mann sent us:

The plant is one of the several species of our very common and abundant *Eupatorium*, or boneset. The bees often get much honey from it, which, however, is rather strong and dark. So we see that "Old men for counsel" is a wise maxim.

A. J. COOK.

Colonies Deserting—Swarming.

I wonder if you have the same annoyance which besets us here, viz.: colonies unceremoniously quitting their comfortable frame hives and hieing themselves off to the mountains and forests. I have lost over 30 or 40 colonies this way, and some old, settled colonies which I have had two years. It seems they wont brook the least interference. A colony left, for instance, yesterday, leaving behind unhatched brood, and a comb quite full of honey. There are no insect plagues to account for it, though I must admit the "bee-catcher birds," as we call them, have been very troublesome lately about the hives, sitting most audaciously right at the hive-entrances, and thus hindering the bees from working; and I must admit I have been neglectful in not having these rascals shot lately. Would this perhaps account for the bees' discontent?

I see a good deal in the BEE JOURNAL about preventing swarming. Allow me to ask, why cannot swarming be prevented by keeping queen-excluding zinc always before the hive-entrances? Why all these "trapping" inventions, when by simply preventing the exit of queens in the manner I mention, swarming *cannot* take place.

"The drones," you will say, "what about them?" Well, my answer is, don't have any drones, or at least keep queen-excluders before ten hives out of eleven; the eleventh's drones will suffice for mating with young queens. By using foundation of only brood size, no drones will be created, nor are they wanted. Should patches of drone-comb nevertheless be built, cut it out.

As my bees are so apt to leave *en masse*, I am now compelled (not to prevent *swarming*, but to retain my colonies) to keep excluding-zinc before the hive-entrances, and I find it neither hinders, nor apparently inconveniences the workers. S. A. DEACON.

Cape of Good Hope, South Africa.

ANSWERS.—The desertion of colonies with you, leaving brood and honey in them, seems somewhat like the desertions that sometimes take place in the northern United States in spring. But one would hardly think your climate cold enough for that. And does spring come in July or August? It is hardly probable that the birds are responsible for the desertions. Can any of our readers help us out?

It may be a good thing for you to have excluders to prevent your queens leaving at the time of deserting colonies, and we have wondered why no one ever tried the same thing in the spring in the Northern States; but to use it for the prevention of swarming is quite another matter. It would prevent the queens leaving, but it would not prevent the rearing of young queens, when the old queen would be killed, and if the young queen should not be allowed a flight she would be a drone-layer.

No. 54.—Mrs. Sarah E. Sherman.

We believe that so far in the BEE JOURNAL'S biographical sketches, only one lady bee-keeper from our "Sunny Southland" has appeared, and that "one" was Mrs. Jennie Atchley. This week we are greatly pleased to be permitted to present to our readers another prominent lady apiarist in the person of Mrs. Sallie E. Sherman, who also lives in the big bee State of Texas.

We met Mrs. Sherman at the recent North American convention, she having

come all the way from her Southern home alone, and on her "own hook," that is, she was not sent as a "delegate" from any bee-association. Mrs. S. also gave us a very pleasant call at our office before the convention, and we had a good opportunity to get acquainted with our large and kind hearted sister, whose name is not altogether unfamiliar to many of our readers.

We commend to you all the following interesting life-story of Mrs. Sherman,

MRS. SALLIE E. SHERMAN.

written by Mrs. Kate A. Orgain, one of her intimate friends, and kindly sent to accompany the picture shown in connection therewith. With an Orga(i)n to sound her praises, and a life that blends in delightful harmony, Mrs. Sherman couldn't well be anything else than a happy, contented and independent "bee-sister." But here is the sketch:

The world is prone to look away off in the distance for its heroes and heroines, whilst right within elbow touch are persons whose fortitude and self-sacrifice, whose noble conquering of every obstacle would make their lives seem grand to us, if we but new the inner working, the toil, the love, and the brave winning of success, under most unfavorable circumstances. I think how often the story of these every-day home heroines and heroes might help and strengthen some toiling, weary soul, and I believe their biographies should be repeated o'er and o'er, and that we should honor the man or woman who has won success through difficulty, embarrassment and affliction, more than we generally do.

In the beautiful village of Salado, "way down South in Texas," is a lady who for her practical sense, her indomitable courage and perseverance in overcoming the "ills" a limited purse "is heir to," and by her devotion and self-sacrifice as a mother, gives her the well-deserved name of Heroine. This lady, Mrs. Sarah E. Sherman, whose maiden name was Sarah Elizabeth Johnson, was third daughter and fifth child of Rev. Thos. E. and Abigail Johnson, and was born on Jan. 15, 1843, in Decatur county, Ga., where she lived with her parents and family until she was 13 years of age, at which time her father and mother moved to Texas with the four youngest children. This was in 1856. Being in an almost destitute condition, caused by fire, storm, and sickness, the family tried various kinds of work to earn an honest livelihood.

Mrs. Sherman well remembers the first money she ever earned. She made an alum basket and filled it with wax flowers of her own make. Her father sold it for $7.00, and handed her the money to spend as she pleased. From that time she began to realize that she was more than a figurehead in the home life, and that there were many ways by which she could aid in making a living.

The family resided in Washington county, near Brenham, for three years. During one of these years her father made 30 barrels of mustang wine with the assistance of herself and two little brothers in gathering the grapes and making the wine. He also raised Havana tobacco, and his wife and children learned to make cigars. Sarah made as many as a thousand a day, yet never learned to use the hateful weed.

Her father purchased 160 acres of land in Burleson county, to which he removed his family in the fall of 1859. Here they endured the many privations and hardships incident to the settling of a new place in a new country.

In 1861 Miss Johnson formed the acquaintance of Mr. S. G. Sherman, who had also settled in Burleson, about three miles distant from her father. They became engaged to be married in April,

1862, but the War, which delayed so many love matches, came on with all its trials and anxieties. Taking her portion of the burden laid on so many Southern women, she learned to card, spin and weave, make palmetto hats, and do various kinds of knitting. After nearly four years of betrothal, she and her affianced were married, on Jan. 15, 1866, it being her 23rd birthday. The fruit of this happy union was only one child, a son, Charles H., born Nov. 11, 1866.

In 1868 the cruel hand of Death snatched away the beloved husband and father, leaving her with her child to rear and educate, and nobly has she performed the duty.

The War had destroyed the fortunes of Mr. Sherman, and at his death she was left with only a good sized tract of unimproved land, a comfortable box-house, 2½ acres of land under fence, and a few head of horses, cattle and hogs. Mrs. Sherman had never been healthy, even when a girl, but being possessed with an indomitable will, and ever-present energy, good judgment, fine executive ability, and the grand stimulus to action — a mother's love, she succeeded in bringing everything upon her farm to an improved condition, making things pay where many men would have given up in despair.

She devoted a great deal of her time to out-door life, looking carefully after her stock, not only for the sake of making them profitable, but from a womanly kindness of feeling toward everything dependent upon her for food and shelter.

Just as she had succeeded in placing a portion of her land in cultivation, and fenced for pasture, a fire destroyed 7,000 rails, and all the grass, causing also the loss of ten cows. She could not bear to let their motherless calves die, so having other cows with young calves, she gave one calf away, and made the nine cows rear 18 calves. This incident is mentioned to show her ingenuity and perseverance under difficulties.

After the fire, she redoubled her energies, had rails split, and her fence rebuilt. In 1875 she leased her farm for a term of years at $200 per annum, and moved to Salado, Bell county, to educate her son. Having had but few educational advantages, she pursued her studies at home, finally teaching several elementary schools, and had her son well advanced by her own training before sending him to the College here.

In the fall of 1879, she purchased one colony of common black bees in a box-hive. From this small beginning has arisen perhaps one among the best apiaries in the State. Mrs. Sherman Italianized her bees by introducing Italian queens into her colonies of black bees. She now uses the movable-frame hive, and began the season's work in 1888 with 40 colonies, and secured 6,000 pounds of honey, mostly extracted, and 100 pounds of wax.

Besides making a success with bees, Mrs. Sherman raised fine chickens that year, having 75 choice Houdans. Besides this out-of-doors work, she has done her own household work, cooking, etc. She has shipped full colonies of bees to several counties in Texas, and Houdan chickens and eggs all over Texas and into Arkansas. Mrs. Sherman manages her own business, sends anywhere for whatever she wants, having had 100 bee-hives shipped at one time from New York. These came "knocked down," but she put them together and painted them to suit her own taste.

Mrs. Sherman has a national reputation as a successful bee-keeper, was represented at the World's Exposition at Paris, and also at the Texas Spring Palace at Fort Worth. The agent of the United States government made a special request of her to furnish samples of all the different kinds of honey she produced, together with a photograph of herself, so she sent the latter and a picture of her apiary taken from different views, also four buckets of honey, namely, red daisy, horehound, horsemint, and silver-weed.

At the death of her husband Mrs. Sherman had been appointed administratrix of the estate, and guardian of her child. When he became of age she found, on reviewing her business record, that she had earned about $640 per annum during his minority. She always kept a strictly itemized account of her income and expenditures. She spared no pains, labor or expense upon her son's education. She sent him to Louisville, Ky., to attend medical lectures, where he graduated with high honors in a class of 306 students, taking two gold medals, and receiving the appointment of resident physician of the Louisiville City Hospital. From there this determined, noble mother sent her boy to New York for more thorough instruction in surgery and general practice. Well and faithfully has she fulfilled the trust the dying father left her, and now her son, Dr. C. H. Sherman, is in possession of a fine practice in a large city in Texas.

Mrs. Sherman has also found time to

work outside her own line of business. For years the question of a good wagon bridge across the Salado river had been discussed, but year after year passed, and no bridge. At last Mrs. Sherman, one day in February, started out with a petition, and secured 175 names, petitioning for the bridge immediately. Getting two other ladies to accompany her, she presented it to the Commissioners, and gave them to understand that they would take no denial. In July following, the citizens of Salado had the pleasure of driving over the new iron bridge—a lasting monument to the energy of one woman.

In many ways Mrs. Sherman has helped others, and to members of her own family, who were needy, she has been kind and generous. She cared for her aged mother until Death called the mother away, and now she tenderly looks after her father, who is 81 years of age.

Such a life as Mrs. Sherman's furnishes many lessons to those willing to learn them. Such devotion as a mother, such energy as a willing worker, such sensible, business capacity in a woman must ever inspire other women, and encourage many a toiling bread-winner.

I take great pleasure in sending this tribute of my respect and friendship for Mrs. Sherman. We are both residents of the same little village, and I cannot help feeling proud of what she has accomplished from a woman's standpoint. Having been born in Chicago, in its early days, I would be glad to see her receive there the place and recognition which is being given to so many noble women at the "White City."

KATE A. ORGAIN.

RANDOM STINGS

FROM THE STINGER.

"Hutchy" is a dandy,
Hasty is quite "sandy,"
The *Review* is very handy,
All are sweet as candy—
And not like "Handy-Andy."

Dr. C. C. Miller has a very readable column-article in a recent number of the *Youth's Companion*, entitled, "Bees on the Defensive." Between the *Ladies' Home Journal*, the *Companion*, and other publications other than the bee-papers, the Doctor manages to give the public a good deal of information about bees and honey.

Mrs. Jennie Atchley is unlike most women—she has given away her age in *Gleanings* for Oct. 1st. She was 36 years of age on July 14, 1893—quite young for a woman who is the champion queen-breeder of the world, and also the mother of eight children, the oldest of whom is about 19 years of age, and the youngest three months!

If the Lone Star State should ever give a premium to the largest queen-rearer in that State, it would also be well for it to give a premium to the parents who do the most to populate the State. It looks as if the Atchleys, *pere et mere*, are in a way to carry off both such prizes, should they be offered. I believe the French government offers a premium of some sort to the parents of families reaching a certain number.

Mr. McIntyre, the bright young apiarist, and President of the California State Bee-Keepers' Association, gives an illustrated descriptive article of his giant honey-extractor in *Gleanings* of Oct. 1st. It is an 8-frame, automatic reversible machine, propelled by water-power. It is his invention, and works like a charm. He has extracted 44,000 pounds of honey with it the past season. It is probably the boss honey extractor of America. Score one for McIntyre and California.

Whoop, la! 5,000 queens will be the out-put of the Atchley queen-yards this year. Just think of it! Who says that new blood is not being introduced into our American apiaries? It looks as if it is being infused into *Apis Americana* with a vengeance. It is therefore no wonder that the American "Dago bees" are a finer race than the parent stock. With such a standing "ad." in her favor, I wonder that Mrs. Atchley advertises at all. But when I come to think of it, it was through the liberal use of printer's ink, along with fair dealing, that the good woman achieved the success that has crowned her efforts.

Here is one of Æsop's "cunningly devised fables," that seems appropriate in this department of the BEE JOURNAL:

"There was once a meddlesome young boy who led himself up to a hive of honest, busy bees to meddle some. He stuck his stick into the gum, and thereby a meddlesome little bee built a fire on the end of the bad boy's nose. Not satisfied with the first round, he blows himself full of rage and strides forth to rile the bees once more. His stick is thrust

in a second time, and all the swarm is stirred up and rattled. Since the second round the bad boy has been out of his head and swollen. He is very fat, and dreams that he is his sister's pin-cushion."

Mr. H. E. Wilder, of Riverside, Calif., has secured 22,000 pounds of honey this year from 110 colonies. A few years ago Mr. Wilder, who is a young and energetic young man, was a book agent. Verily, sitting down and letting the bees work for you is better than tramping over the country trying to sell books, to say nothing of putting up with the taunts of impolite persons. Good boy, Wilder; may your shadow never grow less.

On page 738 of *Gleanings* Rambler has let his fertile imagination run off and produce an electric bee that will gather honey by night as well as by day. It is a cross between a common Italian bee and the American lightning-bug. But, lo! the editor of that paper throws a wet blanket on Rambler, and says, "The idea of crossing lightning-bugs with bees is older than the hills."

CONDUCTED BY

Mrs. Jennie Atchley,

BEEVILLE, TEXAS.

Dead Brood Don't Produce Foul Brood

I notice on page 434 that Mr. McEvoy gives me a going over about what I have said regarding foul brood heretofore. What I have said, I have said, and yet stick to it, that common dead brood will not, cannot, never did, and never will, produce *foul* brood. How do I know? Because I have tried it. I will here mention a case that last spring came under my own observation. The party did not wish me to mention it publicly, but in this connection I will do so to make my point.

Last spring, after warm weather had begun, a man brought me a carload of bees, and they were put up for shipment just as they were beginning to swarm, and were very heavy with brood in all stages. The bees were on the road four days, and 70 of the strongest colonies smothered, and such a mess I had never seen before. The dead and rotten brood was given to new swarms and other colonies at once, and no bad results. This, together with the other *experience* I have had along this line, proves conclusively to me that there is no such thing as real, old, malignant (*Bacillus alvei*) germs in dead or rotten brood. There *must* be a germ to start foul brood, or else it must not exist. You may ask me where it started; this I am unable to answer—just the same as I am unable to say where yellow fever starts. There are a great many things in this world that I suppose never will come to light, and where, or how, foul brood started may be one of them.

Friend McEvoy, I fear you started out wrong in suggesting that dead or rotten brood produces *foul* brood, for it will not do it in this country.

Now, again: You have laughed at me, but I can see (or think I can) that your laugh was only a forced grin, as any of our little folks know that water is given us to cleanse with, and cleanliness is one of *Heaven's* first laws. Therefore, I said that to scald the hive where a foul-broody colony had been, would kill the germs, and to put a new colony of bees into such a hive, they would not take foul brood. I did not mean that scalding the hive would cure foul brood, or placing the foul-broody colony back into a scalded hive would effect a cure. No, no; it would do no good at all.

Now, Friend McEvoy, you say that you and some one else (I don't remember now who it was, as I am writing from memory to-night, and I have not your article before me) know as much as Mrs. Atchley about these things. Well, now these things I *must* admit, for if I did know more I would hardly be allowed the honors, as I am only a woman. Then, I would not like to say that I knew more than other people, as it would not be ladylike to do so; but I *must* acknowledge that I know but little, and learn every day of my life. But there is one fact that presents itself to me concerning foul brood, and that is dead brood *will not* cause foul brood in this country.

Friend McEvoy, I have never said a word against your way of curing foul brood, as I think you are doing a wonderful work in getting the bees in your country cleaned up, and curing *foul*

brood; but I said in the outset that common, dead, rotten, drowned, or any other kind of dead brood will not produce *foul* brood in Texas, and I am willing to lead George Chaney, the biggest (in stature) bee-keeper that I know of (as he looks as if he would weigh 400 pounds) over my bridge, and it will not shake, much less fall. Now, Friend McEvoy, as you laughed at me without permission, may I grin at you for thinking that dead brood produces *foul* brood? Then if this shoe pinches like the other one did, please wear it, and you will have a full pair, and standing in them you may force another grin.

In conclusion I will say that as long as we are laughing, there is no danger of any fight. Then, I will always run before I'll fight. JENNIE ATCHLEY.

Sorghum Syrup for Winter Stores.

MRS. ATCHLEY:—Will bees winter on sorghum syrup successfully in this latitude, if fed to them for winter stores? I have some colonies that are light in stores, and I wish to know if they will winter on it successfully in this latitude. Answer through the "old reliable" AMERICAN BEE JOURNAL. May it long continue, is my wish.

Decatur, Miss. N. E. CLEVELAND.

Friend Cleveland, all my experience in feeding common molasses or sorghum, is that bees will not take hold of it for me. I have succeeded a few times in getting some colonies to take a little sorghum that were starving to death, and they will work at molasses barrels, but I would mix a little honey or sugar syrup with it. But if you can succeed in getting them to store enough of it in the combs, I think in your latitude they will winter on it. I suggest that you try it and report. JENNIE ATCHLEY.

"A Modern Bee-Farm and Its Economic Management," is the title of a splendid book on practical bee-culture, by Mr. S. Simmins, of England. It is 5¾x8⅛ inches in size, and contains 270 pages, nicely illustrated, and bound in cloth. It shows "how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man." It also illustrates how profits may be "made certain by growing crops yielding the most honey, having also other uses: and by judgment in breeding a good working strain of bees." Price, postpaid, from this office, $1.00; or clubbed with the BEE JOURNAL for one year, for $1.70.

The Best Working Colonies for Next Season.

Query 895.—Which will likely make the better working colonies during the working season next year—that is, store the most honey—those that require from 20 to 25 pounds to carry them through the winter, or those that will get along on from 5 to 10 pounds of stores?—Minn.

The latter.—G. M. DOOLITTLE.

I would choose the larger large colony. —E. FRANCE.

Strong colonies that require the lesser amount.—P. H. ELWOOD.

All conditions being equal, there will be no difference.—H. D. CUTTING.

The amount of food consumed cuts no figure in the case.—MRS. L. HARRISON.

I would select those that will take from 20 to 25 pounds.—J. P. H. BROWN.

I would rather risk those that consume the 20 or 25 pounds.—J. M. HAMBAUGH.

As a rule the first, because stronger. A medium amount may be better than either.—C. C. MILLER.

The amount of honey consumed is no criterion by which to judge of their future strength or working qualities.—J. H. LARRABEE.

Probably the stronger colony. But my doctrine is to go into winter quarters with *not too large* a colony of *young* bees. —WILL M. BARNUM.

I do not think the quantity of honey consumed has anything to do with the capacity for gathering honey the next season.—EMERSON T. ABBOTT.

I don't think it will make any difference, still I don't know that any data can be ascertained from which a correct answer could be given.—J. E. POND.

I know of no fixed rule about this, for, if they all go through, one may be as good to store honey as the other, as in this country they *all* may need food before honey comes in the spring.—MRS. JENNIE ATCHLEY.

It frequently happens that those that eat the least winter the best. Very large colonies are no more likely to winter well than medium-sized ones.—S. I. FREEBORN.

I do not think any answer could be given. The amount of honey depends upon conditions that have little or nothing to do with the excellence of the colony.—A. J. COOK.

I suppose a colony gets along on what it requires, and other things being equal, as regards strength and health, one would be as likely as the other to be the best.—A. B. MASON.

Comparisons cannot be made that way. If bees are not wintered under proper conditions, they will consume more honey than is necessary, or, a colony that is strong in bees during the winter may not be in condition at the proper time to store the most honey.—MRS. J. N. HEATER.

I hardly know whether I understand the question rightly. If it is meant that a colony requiring that amount of food besides what they already have, I should say those requiring the least. Those consuming the most honey in winter will be almost certain to prove the best the following year.—C. H. DIBBERN.

I do not know, and do not think this makes much difference. The important thing is, Which one has the best queen and the greatest number of vigorous young bees in the spring? The small colony often comes out even in these respects, and is rather more likely to have the other necessary element—plenty of stores.—JAMES A. GREEN.

The question is vague. No healthy colony would require 20 to 25 pounds for winter alone, and no colony can amount to much that gets along on from 5 to 10 pounds during winter and spring. It takes plenty of honey to get *any* colony into good working order. I prefer my colonies to go into winter strong, but not abnormally so.—R. L. TAYLOR.

There are so many other things that enter into the case that a positive opinion cannot be given. Other things being equal, and all conditions favorable, the colonies that have the most bees at the beginning of the honey harvest will store the most honey; and they are likely to be the ones that have consumed from 20 to 25 pounds of honey in the winter and spring.—M. MAHIN.

You assume that it is a common thing for bees to differ as much in winter consumption of stores as 5 is to 25. Such is not the rule by a half a mile, or more. Those colonies that have young, vigorous queens that the workers are perfectly contented with, and little inclined to swarm, will give the best results under almost any condition of things. Proper condition at the beginning of the honey harvest, and the conditions to hold the proper conditions, is the essentiality of success in the best results.—G. W. DEMAREE.

I do not see why the consumption of honey would increase the usefulness of a colony, unless on the theory that it is used to rear young bees. If the greater part of 20 to 25 pounds were used for that purpose after bees begin their flight in spring they would be better than one which used less, and consequently reared fewer young bees. But I regard it of no advantage for a colony to consume a large amount of honey in winter.—EUGENE SECOR.

Improvement of Bees—Rearing Queens, Etc.

Written for the American Bee Journal

BY DR. E. GALLUP.

On page 337, Dr. G. L. Tinker has an excellent article, or some excellent ideas, on the improvement of bees. Well do I remember when all the rage was breeding for color and gentleness, until the Italians were comparatively worthless for profit. Many beginners reported that the common bee was superior for profit, etc.

Then the way of rearing queens was very objectionable. The fact was, a large majority were running out the race instead of improving it. Many queen-breeders were anxious to have Gallup endorse their stock, and I received dozens of queens *gratis;* but I received none that came up to my standard for profit, except two—one from Adam Grimm and one from Dr. Hamlin.

The Hamlin queen I kept until she

was 6, and the one from Grimm until she was 5 years old. I reared my queens from one, and the drones from the other, one season, then changed about the next season, then kept selecting from my most prolific and best colonies until I had as profitable a lot of bees as could be produced anywhere.

I occasionally purchased an imported queen, but kept on in the above line. I started in on that line in California, consequently I had a stock of bees that I was not afraid to recommend for profit. As Dr. Tinker says, they were not quite as gentle to handle as some, under all circumstances, but not extra vicious, by any means.

My method of rearing queens was this: Take a frame of hatching brood from any populous colony, and the adhering bees; I also was careful to get quite a quantity of unsealed larvæ, until I filled a standard hive with comb and brood, and the adhering bees. Put them on a new stand. The following day take young nursing-bees frem strong colonies; this can be done by shaking bees from combs, in the middle of the day (when the old bees are out to work) in front of the new colony until the hive is overflowing with nursing-bees. All the old bees go back to their own stand. I always was careful not to get the old queen from any hive. This can be done by taking out the comb containing the queen, and setting it by the side of the hive.

I always selected one or more combs containing pollen, as the young bees will not gather much for the first three days. I gave water and stimulated with diluted honey at evening, and if the weather was unfavorable, kept up the stimulation. On the fifth day take out all unsealed larvæ and queen-cells, then insert two or more combs from my best colony containing eggs and larvæ just hatched, cut out a strip just below the young larvæ for queen-cells. I would succeed in rearing a splendid lot of queens, large and prolific. The hive was full of nursing-bees, and all prepared to fill the queen-cells with abundance of prepared food.

I was just foolish enough to think the above a better plan than to take a pint of old bees, or just as it happened, and put them into a 6-inch square box, and compel them to build or rear one or two starved queens where the necessary warmth and nourishment were lacking, Of course, with Doolittle's book on practical queen-rearing, we have all that is necessary now-a-days.

Understand that I was not rearing queens for sale, but only for my own use. Bees can certainly be improved, as I have abundantly demonstrated to my own satisfaction, and we can improve the imported Italian instead of retrograding, as many have claimed heretofore.

Do not understand me as meaning that my queens were as large as hens or turkeys, but extra-large for queens. In this climate I reared queens that would almost occupy every available cell in a 10-frame Langstroth hive, by moving the combs to the side of the hive filled with sealed brood, occasionally. On such a colony I placed two supers at extracting time, and the two would be filled ready for extracting as often as an ordinary colony would fill one.

Santa Ana, Calif.

Some Ideas About Cross Bees and Honey-Gathering.

Written for the American Bee Journal

BY T. I. DUGDALE.

On page 398, I notice a few statements made by one of the noted queen-breeders in regard to cross bees, which I think should be modified, to some extent at least. If past experience counts for anything, I should say that the burden of evidence is decidedly against the theory advanced by that writer, and if the reader will turn to the second chapter of the Gospel by Luke, and the 14th verse, these words will be found: "Glory to God in the highest, and on earth peace, good-will to men."

There are many sore and grevious trials in this world to bear, and among them may be classed a lot of detestably cross bees following one from place to place persistently, thus causing a person to commit sin (in thought, at least) if not openly. Taking it for granted that the words mentioned is the foundation of the Christian's hope, let us see how it applies to the ordinary affairs of daily life.

Take, for example, an individual, a family, a neighborhood, or a Nation, and history tells us that the more peaceable and enlightened, the more prosperous they become, and on the other hand a continual state of warfare and plunder tends to lower and degrade. This same state of affairs I contend exists with animals, and amongst bees those colonies which show the worst fighting traits, are also apt to be the most given to robbing, and, as the saying goes, are never

at peace except when at war; and ill-gotten gains, whether among bees or men, generally come to no good end.

Again, I find that very cross bees seldom winter well, as they are ever on the alert for some imaginary foe, and do not so readily enter into that state of quiet so necessary for the well-being of the colony. Well do I remember a colony of Cyprians which I once had, that were so cross that they would attack anything within 80 rods of the apiary, without any provocation whatever, and, at times, were so vicious that even the doors and windows to our house, which were located some 10 or 15 rods away, had to be kept closed to prevent them from entering and attacking the inmates; and never could I open their hive without first preparing myself for a regular seige, and several times I have seen the stings so thick in my clothing that I doubt if one square inch from head to foot could have been found that did not contain one or more, even with all the smoke I could use on them, and at last I was compelled to destroy them, as they would attack people and horses on the highway, and were in a fair way to create a disturbance leading to serious consequences. As honey-gatherers they were no better than the average of the more docile races in the same yard.

During the past five years I have never worn either veil or gloves in the apiary, except on one occasion when I had a swarm cluster in a thick mass of brush on a tree, which made it necessary for me to stand on a ladder directly under them in order to secure them, and I then resorted to the use of a veil as a precaution against their falling on my head and shoulders. I have brought about this state of affairs by continued careful breeding and selection, and never before have I had bees that would equal these as energetic honey-gatherers.

I may say in this connection that I make the production of honey and experiments in the various branches of apiculture a specialty, and have tried nearly all of the different races of bees obtainable, and would pinch the head of a queen that produces cross bees, as quickly as for any other one thing that I know of, as I have no use for them, and am not afraid of any falling off in the average honey crop in consequence of it.

As a member of the National Bee-Keepers' Union, I would earnestly advise any one having any queens that produce really vicious bees, to send them to Texas, or elsewhere, where they have lots of room and a sharp stick to look after them; and especially if you are near neighbors, or located along a highway where people are liable to be disturbed by them, for we read that offences must needs come into this world, but woe be unto him by whom the offence cometh.

West Galway, N. Y.

Improvement of Our Present Races of Bees.

Written for the American Bee Journal

The question of improvement of our present races of bees has been much discussed, and like the improvement of domestic animals, the most obvious way is to produce and preserve the "fittest." Natural selection of progenitors is not always the "survival of the fittest." Whilst we are eager for improvement that will result in greater honey gathering capacity, the fountain-head of much of our apicultural knowledge allows itself to endorse acts upon what appears to be diametrically opposite to what seems to be demanded. Whilst the course pursued is contrary to every known result, where bees are directing opperations according to Natural law, or transmitted instinct, to do other than improve upon Nature's methods, is a wicked perversion of man's opportunities.

The breeding for size seems to call loudly for experimentation. Does it not coincide with the average judgment that the larger bee will be, all things considered, the most profitable? Then why continue to breed in combs black with age, and cells half-filled with cocoons? Is it not a fact that newly-built cells produce an average larger bee? That it requires a greater amount of chyle, or chyme, to float the larvæ? That this chyle, or chyme, whether scanty or profuse, has a corresponding effect upon the future bee, producing greater size, strength, and activity? All close observers will readily acknowledge that such is the case in the production of queens—why not the same effect upon the worker? Can you produce as fine and as large queens by taking a portion of the chyme, chyle or jelly from the cell, as will be produced by one abundantly supplied with the same? These questions were suggested, at this writing, by an article in the AMERICAN BEE JOURNAL on page 408, and at a prior time by an article in *Gleanings*, for Aug. 15, 1893, page 635; and the idea en-

dorsed by the editor of *Gleanings* on page 713, of a September issue.

The writer on page 408 of the BEE JOURNAL, complains of receiving a dollar queen. His language is, "A small yellow queen, but little larger than an average leather-colored worker," and "bees sent in the cage correspondingly small." This same experience many others doubtless have had. The writer thinks that perhaps he obtained an old, played-out bee. My opinion is it was a queen bred after the vicious manner referred to in *Gleanings*, page 635. No breeder of domestic animals would pursue a course of breeding from "runts," with the expectation of producing a superior animal. Whoever produces these runts of queens and sends them out, is ignorant of the requisites to produce excellence, or is lamentably lacking in the practice of the Golden Rule, even by sending out "golden bees."

If a large, well-formed animal of its species has more prepotency to transmit to its progeny its own superior excellence than the "runt," then why not the same law be operative in the bee? That the bee is governed by the same laws in the transmission of an excellence of themselves is patent in the fact that all good queen-breeders, and expert apiarists, are asking greater prices for some than others; because they are more prolific, and transmit their qualities of excellence.

If man, by skillful manipulation, can improve upon the natural selection of the hive, is it not a sin against the Author of the bee, to employ any method that enforces the bees to produce queens by methods other than improving on natural methods, retarding effects to produce superiority?

Des Moines, Iowa.

Use of Comb Foundation in the Brood-Chamber.

Results of Experiments at the Michigan Apiary,

BY R. L. TAYLOR, APIARIST.

I desire in this article to set forth briefly the character and results of the experiments made in the apiary to test the comparative value of comb, foundation and starters when used in the brood-chamber for swarms, and in addition thereto to call attention to what the experiments seem to disclose touching the comparative advantage of swarms of different sizes. In the main, all this can be best accomplished by the use of tables which I have prepared and which are presented herewith.

It was not till the 27th of June that I was able to put into operation my plans for making these tests. I prepared 12 hives, four of which were furnished with comb, four with foundation, and four with starters only. The hives prepared with comb were designated by the numbers 1 to 4 inclusive with the letter A, those with foundation in like manner with the letter B, and those with starters with the same numbers and the letter C, and each hive was marked with the proper designation and its weight. Then in each case when a swarm issued, which was to be used for making this test, it was secured in a basket and weighed before hiving: the supers also, whether taken from the old hive at swarming or supplied subsequently, were carefully weighed before they were put in place and a record made on the spot of all items. By referring to table A, all these will be found in the three columns following the date of hiving except of course the weight of the cases subsequently adjusted which appears further along.

I ought also to say that in each case the hive with the bees and cases was reweighed early on the morning subsequent to the hiving in order to detect and thereby correct any change which might chance to take place before the swarm became settled in its new home. The only change it was found necessary to make was the addition of the fraction of a pound to the weight of the bees which may be supposed to be accounted for by the presence in the morning of bees which at the time of swarming were afield.

Other data for table A were obtained by weighing the several hives, bees, supers and all upon three different dates, viz., the 6th, 12th, and the 19th of July (thus dividing the time of the test into three nearly equal periods) and by weighing the cases of honey separately on July 19th, at the end of the time given to the test. These data with the previous ones enable me to state the exact total gain of each colony for each of the three periods, the gain of each colony in the amount of comb honey together with the gain in the weight of the hive for the entire time. From these I deduce the gain per pound of bees of each colony for each of the three periods as well as for the entire time, and also the gain in the weight of the hive and the gain in the amount of comb honey for the whole time.

It will be noticed by reference to the

tables that almost nothing has been made of 3A and 2C. The explanation of this is that the latter persisted in its desire to swarm until it eventually lost a considerable part of its bees by their uniting with another swarm, and the former, within a day or two after swarming, in some way lost its queen and dispersed more or less in consequence. The only question with regard to the propriety of this course arises when we consider table C, wherein the comparative advantages of large and small swarms are weighed. Perhaps 2C should have been permitted to cut some figure in that, for it clearly illustrates one of the disadvantages of very large swarms.

Table B is a summary of table A and puts the tables of each group of colonies employed in the experiment side by side so that the general results are seen at a glance.

Table C is derived from table A and puts in constrast the work of the stronger colonies of each group with that of the weaker ones of the same group, and table D is an epitome of table C.

Now what do the tables teach with regard to the comparative profit of the use of starters, foundation, and comb in the brood-chamber as well as with regard to the advantage of larger and smaller swarms? It would be too much to expect that upon either of these points the results shown by the several hives taken separately would invariably point in the same direction. There are so many inscrutable influences at work that we may well look for unexplainable vagaries in the revelations of individual hives. It is largely for this reason that I think the writer who in one of the apicultural journals recently very flatteringly intimated that the results obtained in the experiments at this branch of the Michigan experiment station would be conclusive, was hasty.

If several varieties of wheat, for instance, were sown side by side upon precisely the same kind of soil so far as human skill could determine, and each variety should receive exactly the same treatment in all respects and at the same time, and one certain variety was found to yield 20 per cent. more than any other, yet the farmer who should from the one experiment jump to the conclusion that the result would always be the same would be accounted lacking in judgment. The results must be verified repeatedly before they can be accepted as the rule. Just so it is with the matter in hand. Yet the multiple character of our experiment with results so nearly uniform give strong assurance that what seems to be disclosed is in the direction of the truth.

From the figures given in the last column of table B, we find that the colonies hived on comb gained in all more than 11 per cent. over those hived on starters, and that those hived on foundation gained more than 13 per cent. over the same. But if we examine with reference to *comb honey* only, we find that colonies "A" (those on comb) gain less than 5 per cent. more than colonies "C" (those on starters), while colonies "B" (those on foundation) gain more than 17 per cent. over "C." But it may be said that "C" has an undue proportion of the weaker colonies, which is true; still, if we turn to table "C" and consider only the strong swarms in each group, we find that "A" gains 9½ per cent. more than "C" in comb honey, and "B" gains 42 per cent. more than "C!" But strange to say, taking the light swarms in the same table and column the positions are exactly reversed—"A" gains nearly ½ of one per cent. over "B," while "C" gains nearly 32 per cent. over "B." If space permitted it would be interesting to inquire why the difference in the weight of the colonies should cause this reversal in their positions in regard to the amount of comb honey produced.

Referring again to table "B" from the figures given in the third column, where the gain for the first period is given, we deduce that "B" gains during that period more than 53 per cent. over "C," while "A" gains more than 68 per cent. over "C;" but during the second period the figures show that for that period the positions are exactly reversed: while for the third period the positions as to relative gain are again changed, "A" making a spurt and leaving "B" in the rear.

Referring again to table "C," we find that the strong colonies invariably gain the more in the first period, while the light ones take a decided lead both in the second and the third periods; in the amount of comb honey for the entire time in each group, the strong colonies have a decided advantage, and so in groups "A" and "B" in amount of total gain, but in group "C," in this point, the weaker ones are far in the lead. But this sort of comparison might be carried on almost endlessly.

If we examine table "A" we find, as was to be expected, that the results in the cases of some individual colonies do not always accord with the general re-

Table A.

Starters.	F'd'n.	Comb.	Hived on
1 C 2 C 3 C 4 C	1 B 2 B 3 B 4 B	1 A 2 A* 3 A* 4 A	Designation.
29	27 27 26 26	27 27 29 29	Hived June.
15 8 16 8 16 12 15 8	15 8 15 8 17 8 17 8	19 8 16 4 19 8 19 8	Wt of Hive pounds and ounces.
7 8 5 8 19 8 15 8	6 12 5 8 5 8 6 12	14 4 21 4 24 4 11 4	Weight of Cases.
4 4 7 8 10 12 5 8	3 4 7 8 7 4 3 4	5 8 3 8 4 8 3 8	Weight of Bees.
27 4 36 8 36 8 29 8	26 4 27 12 27 12 26 4	38 12 43 8 43 8 46 8	Total weight at time of hiving.
36 8 47 8 57 8 46 8	35 12 39 12 39 12 35 12	53 8 49 8 48 8 69 8	Total weight July 6th.
37 8 11 8 2 2 17 4	9 8 2 8 2 8 4 4	14 4 5 8 6 8 32 8	Total Gain 1st Period.
2.058 ..... .93 4 3	2.375 ..... 2.385 1.034	2.591 1.833 1.333 1.343	Gain per lb. of Bees Pounds.
..... 8 ..... 8 4	..... 7 8 ..... 8 12	..... 49 8 ..... 9 8	Wt of Cases adjusted July 6th.
2.208 37 3.395 51 8	2.208 37 3.395 51 8	2.208 37 3.722 56	Total weight July 12th.
1.500 2.145 2.208 31 8	1.500 2.145 2.208 31 8	1.500 2.145 2.208 31 8	Total gain to July 12th.
1.857 2.125 1.633 8	1.857 2.125 1.633 8	1.857 2.125 1.633 8	Total gain 2nd Period.
1.776 2.25 ..... 1 8	1.776 2.25 ..... 1 8	1.776 2.25 ..... 1 8	Gain per lb. of Bees, 2nd Period.
59 12 77 69 73 8	56 77 69 73 8	72 52 60 95 4	Total weight July 19th.
32 32 32 38	29 12 32 32 38	33 4 9 4 8 4 47 4	Total gain to July 19th.
28 12 10 4 10 4 8 8	7 12 5 8 4 8 8 8	9 14 8 15 8 8 8	Total gain 3rd Period.
2.411 2. 2. 1.533	1.947 1.095 .758 1.533	1.696 1. 2.066 1.032	Gain per lb. of Bees, 3rd Period.
21 46 45 46	21 18 45 46	31 19 62 55	Wt of Cases July 19th.
69 8 14 23 33	4 41 12 12 50 8	12 38 38 35	Total Gain in Comb Honey.
3 294 4 5 2 381 3.625	6 738 5 758 2 381 3.625	3.045 5.133 4 516	Total Gain in Comb Honey per lb. Bees.
18 8 9 12 15 47	7 8 9 8 15 4	16 8 22 12 50 12	Total gain in wt of Hives.
33 4 1 95 4 352 .666	1 31 2 857 5 257 7 437	3 1 58 2.933 6 066	Gain in hives per pound of Bees
7 646 6 45 5 666	7 068 7 733 5 666	6 066 8.066	Total gain per pound of Bees.

* 3 A and 2 C are disregarded in subsequent tables.

Table B.

Description of Swarms.		Wt of Bees in pounds and ounces.	Gain first Period.	Gain per lb. of Bees.	Gain second Period.	Gain per lb. of Bees.	Gain third Period.	Gain per lb. of Bees.	Gain Comb Honey.	Gain per lb. of Bees,	Gain in Wt of Hives.	Gain per lb. of Bees	Total Gain.	Total Gain per pound of Bees
Group A		30 12	77 4	8.722	31 4	1.500	32 8	1.566	90 4	4.349	50 12	2.445	141	6.794
Group B		24	81 8	3.395	51 8	2.145	33 8	1.395	119 4	4.968	47 4	1.968	166 8	6.906
Group C		16 12	97 8	2.208	37 8	2.208	28 12	1.7 6	69 8	4.15	33 4	1.97	102 12	6.12
Table C.														
Group { A	Swarms of over 7 lbs.	15 4	63 4	4.131	21 4	1.393	23 8	1.541	73 8	4.819	34 4	2.245	107 12	7.065
	Swarms of less than 6 lbs.	5 8	14 4	2.591	10 4	1.818	9 8	1.636	16 12	2.945	16 8	3.	33 4	6.045
Group { B	Swarms of over 7 lbs.	14 12	60 4	4.065	29 4	1.988	20 8	1.355	92 4	6.254	17 4	1.152	109 4	7.406
	Swarms of less than 6 lbs.	9 4	21 8	2.324	23 4	2.466	13 8	1.459	27 4	2.92	30 4	3.27	57 4	6.189
Group { C	Swarms of over 7 lbs.	7 8	17 4	2.8	12 4	1.638	8 8	1.133	33 4	4.4	5	.666	38 4	5.066
	Swarms of less than 6 lbs.	9 8	19 12	2.078	24 12	2.605	20 4	2.131	36 8	3.842	23 4	2.973	64 12	6.815
Table D.														
Total of Swarms of more than 7 lbs.		37 8	140 4	3.738	62 12	1.671	52	1.386	192 12	5 3	59 4	1.5	255	6 8
Total of Swarms of less than 7 lbs.		24 55 8	2 312	57	2 375	42 12	1.781	80 4	3 843	75	3 125	155 4	6 468	

sults, yet sufficiently so, I think, to warrant us putting some confidence in the general results so far as they go; I say so far as they go, for the test was for three weeks only, and *time* appears to be an essential element in the experiment. The colonies that are strong in numbers as compared with the weak, and those aided with comb or foundation as compared with those left unaided, are soonest "out of breath" in the race, or, perhaps, the luxury and wealth of numbers and resources prove destructive to energy and ambition; and, on the other hand, straitened circumstances, whether it be from a lack of numbers or of resources, arouse vigor and persistence in a determination to supply the lack. At least, that is what the tables seem to teach, and we can only guess what the result would have been had the tests covered the whole of the honey season instead of the last half. Many and varied experiments must be made in order to arrive at the exact truth in these matters. Let no one fear that apicultural experiment stations may be either too numerous or too well equipped. To one who has entered it, the field looks exceedingly large.

For the rest I must be content at this time to close with a summary of the results pretty clearly disclosed by the experiments conducted in the manner and for the time stated, but I wish first to invite and urge all who are interested in the matter to make suggestions and criticisms both upon my methods and inferences, and let them not, out of a concern for my feelings, so refine their strictures that they lose all their point, and with it their effect. That is not the way, as too many bee-keepers seem to think, to get at the truth. At all events, I am not very thin-skinned, and I believe that, at least in these experiments, I am willing to look at the naked truth. I know now that in some respects my methods have been faulty, and no doubt they have been so in other points than those which I have discovered, and what those other points are I am anxious to know.

In this summary, as elsewhere, when I speak of gain it is not gain per colony, for the colonies vary in strength, but per pound of bees, which seems to be the only just way.

If, then, we may trust our tables, they show for the last half of the summer season:

1st. That for profit, foundation in the brood-chamber for swarms has a decided advantage in point of surplus comb honey over both drawn comb and frames with starters only; that drawn comb stands second, and starters third.

2nd. That in point of total gain in both brood-chamber and surplus, the same order holds, and to nearly the same extent.

3rd. That fairly strong colonies show a very decided advantage over light ones in point of comb honey surplus, and also to a small extent in the total gain.

4th. That light colonies sustain their rate of gain in all cases better than fairly strong ones.

5th. That swarms on starters only sustain their rate of gain decidedly better than do those on comb or on foundation.

6th. That of the light colonies those on starters are decidedly more profitable than those on either comb or foundation.

I ought to explain here that each swarm was hived on a brood-chamber equal to that required to hold five Langstroth combs.

Lapeer, Mich., Sept. 22, 1893.

CONVENTION DIRECTORY.

Time and place of meeting.

1893.

Dec. 12, 13.—Illinois State, at Springfield, Ills.
Jas. A. Stone, Sec., Bradfordton, Ills.

Dec. 13, 14.—Eastern Iowa, at Delmar, Iowa.
Frank Coverdale, Sec., Walton, Iowa.

Dec. 19, 20.—Northern Illinois, at Rockford, Ill.
B. Kennedy, Sec., New Milford, Ill.

☞ **In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—The Editor.**

North American Bee-Keepers' Association

PRES.—Emerson T. Abbott.....St. Joseph, Mo.
VICE-PRES.—O. L. Hershiser....Buffalo, N. Y.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.
147 South Western Avenue.

When Renewing Your Subscription, why not send along one or more new subscribers, and take advantage of our liberal premium offers on the 5th page of this copy of the Bee Journal? You certainly can easily secure the subscribers, if you will show them that they also receive their choice out of several free premiums. Try it, and see what you can do.

Report of the North American Bee-Keepers' Convention.

Reported for the "American Bee Journal"

BY R. F. HOLTERMANN.

The 24th annual meeting of the North American Bee-Keepers' Association was the most representative and largest gathering of bee-keepers ever held on the American continent, and met at the Louisiana Hotel, in Chicago, Ills., on Oct. 11, 1893. The President, Dr. C. C. Miller, was in the chair.

The convention was opened with prayer by Mr. A. I. Root.

Mr. George W. York, in a pleasant manner, delivered the following appropriate

Address of Welcome.

Mr. President, Ladies and Gentlemen :—

It is with a sincere feeling of pleasure that I am permitted to welcome to our Western metropolis, and at present the Mecca of the world, the grandest association of bee-keepers this continent has ever known. As a representative and resident of "Chicago, the Peerless," I offer to you not only "the keys of the city," that shall open the gates to all its pleasures and wonders, but I also extend to you a most hearty and cordial welcome.

Many of those who are here before me, have come from distant climes, and are now indeed in a "far country," but nevertheless remember that you are still in your "blessed homeland," and that the same God reigns here as in the sunrise East, in sun-crowned Canada, in the sunset West, or in the sun-kissed Southland. I trust that during your brief sojourn within our borders, you may all feel perfectly "at home;" and when your conventional labors are ended, your inclinations for sight-seeing are fully gratified, and you return once more to the loved ones around your various hearthstones, permit me to express the hope that you may carry with you memories that shall serve as an inspiration in future days to nobler and better living, both for Time and for Eternity.

I realize that it is no small thing to welcome to our city the representatives of so honored and ancient an industry as bee-keeping; for ever since bees and honey were found in the ribbed carcass of the lion in the time of Samson, until the present hour, honey and its production have been the delight and profit of the sage as well as the peasant; and to-day I know, from my own experience with men and women, that many of the very best people in all the world are devoted to the honorable pursuit of apiculture.

Bee-keepers of America, while the horologe of time is striking the eleventh hour of the Century, I bid you welcome to Chicago—the eighth wonder of the world. Welcome, also, to the untold splendors and matchless magnificence of the beautiful "White City," within whose doors is the most marvelous collection of the handiwork of mankind that earth ever beheld. Yes, welcome to all these, for *all things* are theirs who believe.

Welcome, then, ye bee-folks, welcome!
To our cities grand and free;
May thy meeting prove as "blessed"
As thy little, busy bee.

GEORGE W. YORK.

Chicago, Ills., Oct. 10, 1893.

After the welcome address, Dr. Miller delivered

The President's Annual Address.

Dear Friends and Fellow Bee-Keepers :—

In looking over the published list of names of those who were to be in attendance at this convention, I could count a quarter of a hundred with any one of whom it would be a real pleasure to spend a solid day in bee-talk. I have no doubt the same thing is true of you. The opportunity of meeting all these and more, at one time and place, is a "red letter" event.

Now, what are we here for? Not for bee-talk alone. No mean part of our enjoyment here, is the cordial greeting and the hearty grasp of the hand. Some of those present we have known for years through the bee-journals without ever having seen them. What a pleasure to meet them face to face. Others, of whom we may never have heard, on acquaintance will be found well worthy our friendship. Still others are old and tried friends, who have a warm place in our hearts, whom we now meet again for

the first time in months or years. Our circumstances are specially favorable to social intercourse, so many of us stopping at the same hotel, with our place of meeting under the same roof. Why shouldn't we have a social time?

Allow me to presume upon my position, to deliver a short lecture on etiquette. When two strangers meet, it is not considered good form, in general, for them to speak to each other without the formality of an introduction. In that introducing a mutual acquaintance gives the name of each, practically saying, "Now you two know each other's names; you are each acquaintances of mine, and it is proper for you to talk to each other." In some cases, indeed, the knowledge of the mutual acquaintance goes no farther than to know the name, and in some cases hardly that, as in the case of the man of short memory, on attempting to give an introduction, who said: "Mr. Smith, allow me to introduce you to —er—," then hopelessly floundering in his attempt to recall the name, ended up by saying, "to this stranger."

In the present case, I think you will agree with me that the only condition necessary to make it proper for me to give you an introduction to a third person, is that the third person shall be a bee-keeper, and that I shall know his name. As we are all bee-keepers, that part of the condition is fully complied with, and each one can give his own name, so what need of further introduction? Let me lay it upon each of you, therefore, not to wait for it. If you want to know the exact words for the highest form of politeness, you can say, "My name's Smith, who are you?" And the one who speaks first is the more mannerly of the two.

So much for pleasure.

As to business, I conceive the most profitable part of a convention to be its discussions. Our journals are invaluable, but the rapid exchange of ideas allowed in the discussions of a convention has brought to light many a truth that otherwise would never have become public property. It might be in order for me to recall some of the topics that have interested bee-keepers during the past year, and to suggest which of them may be profitably discussed here, but what need? You know what they are without being told. Our Secretary has selected some, but has wisely left plenty of room for others. These may be brought out through the question-box. Let me earnestly exhort you to make full use of this. If there is a question in your mind as to anything in the realm of practical bee-keeping, put that question in the question-box. It may interest others, as well as yourself, and if not profitable for general discussion, little time need be spent upon it. But in no way can we so well meet the wants of all as by use of the question-box, providing each one uses it.

And now let's get to business.

C. C. MILLER.

On motion by Hon. R. L. Taylor, seconded by Dr. A. B. Mason, it was voted that a committee of five be appointed to arrange the programme for the following sessions, so that every one could attend the sessions when the subjects they would be specially interested in would be presented. The following committee was appointed by the President: Hon. R. L. Taylor, Mr. W. Z. Hutchinson, Mrs. L. Harrison, Hon. J. M. Hambaugh, and Mr. E. Kretchmer.

The report of Mr. Frank Benton, Secretary of the Association, was then read; also letters of regret for their absence from Hon. Christopher Grimm, of Jefferson, Wis., and Mrs. Jennie Atchley, of Beeville, Tex., the latter being prevented from attending on account of sickness in the family. Mrs. Atchley also suggested that it might pay to move bees from Illinois to the South to winter, and then move them to the North in time for the white clover harvest the following season. Mrs. A. L. Hallenbeck, of Millard, Nebr., also expressed regret, as did a number of others who were compelled to be absent.

The Treasurer, George W. York, then read his report, which will appear later on.

At this point a recess was taken for the reception of membership fees, etc.

(Continued next week.)

Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents; or clubbed with BEE JOURNAL one year, for $1.10.

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for $1.40.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Kept Bees Over 33 Years.

I have kept bees for over 33 years in movable-comb hives, using the Langstroth frame all the time. I have tried 8, 9 and 10 frame hives, but prefer the 9-frame for brood-chamber, and 8 for super. I call my hive the "Ventura Standard." The entrance is full width of the hive, and all frames rest on tin rabbets. The hives are painted pure white. JNO. G. COREY.
Santa Paula, Calif., Oct. 21, 1893.

Plenty of Stores for Winter.

I hardly know whether to make a report or not, but here goes. I got only about 12 pounds of honey per colony. The honey crop is "no good" in southwest Iowa this year. The clover winter-killed last winter, so there was but little bloom from that source, and the fall bloom was not very good; however, the bees have plenty of stores for winter. JERRY SCOTT.
Shambaugh, Iowa, Oct. 24, 1893.

Fairly Good Season for Bees.

The honey season is now over. Let the busy bees rest awhile from their labors, but let us not forget to see that they are prepared for winter, in stores, packing and ventilation. Bees have done fairly well this season here, mine especially. I took 40¾ pounds of nice honey from a medium-sized swarm—hived on the 30th of May, in one of my improved hives. It also filled the body of the hive. I had only two old ones that beat this. I had larger swarms in flat hives, which had as good chances, but did not make the showing. No more flat, shallow hives for me. I took the two "first premiums" on honey at our County Fair, over three competitors. T. C. KELLY.
Slippery Rock, Pa., Oct. 23, 1893.

Loss of Weight in Wintering.

Last fall, about Nov. 30th, I put about 80 colonies of bees into my cellar, with nothing over the brood-frames except a slatted break-joint honey-board, and two or three thicknesses of burlap and brown muslin. I gave plenty of lower ventilation, tiered up 4 or 5 high, and put them in and weighed as they were. They were taken out about April 1st, and the greatest loss of weight was 19¼ pounds per colony, and the least loss was 4 pounds; the others running all the way between. One winter before, it ranged from 4½ pounds to 22 pounds. Now, the question is, being wintered in the same cellar, and the same length of time, why so great a difference in loss of weight? They all came out dry, and in good condition. The average loss per colony was about 11 pounds, which included dead bees as well as honey. O. B. BARROWS.
Marshalltown, Iowa, Oct. 23, 1893.

[Who can give an answer to Mr. Barrows' question? Here is a chance for those who have been experimenting in this line, or for the experiment station itself.—ED.]

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers at the club prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper:

	Price of both.	Club.
The American Bee Journal	$1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Review	2 00	1 75
Canadian Bee Journal	2 00	1 75
The Apiculturist	1 75	1 65
Progressive Bee-Keeper	1 50	1 30
American Bee-Keeper	1 50	1 40
Nebraska Bee-Keeper	1 50	1 35
The 8 above-named papers	6 25	5 25

Convention Notices.

IOWA.—The Eastern Iowa Bee-Keepers' Association will meet at Delmar, Iowa, on Dec. 13 and 14, 1893. All interested in bee-culture are requested to be there, and to bring with them any thing or fixture that might be of interest to bee-men.
Welton, Iowa. FRANK COVERDALE, Sec.

ILLINOIS.—The Illinois State Bee-Keepers' Association will meet at Springfield, Ill., on Dec, 12 and 13, 1893, in the Senate Judiciary room at the State House. The Illinois State Grange, the Illinois State Horticultural Society, and the various Stock Breeders' Associations meet at the same time, and in the several rooms of the State House. Railroad fare has been secured on the Certificate plan, 1½ rate. Those attending, to get the rate, must pay full fare going, and get a Certificate of the agent where the ticket is purchased. Rates at the hotels are secured at $1.50 per day, where two or more days' board is paid. The Horticulturists and Bee-Keepers are to make their head-quarters at the Hotel Palace. Come, everybody, and have a good time.
Bradfordton, Ills. JAS. A. STONE, Sec.

Great Premiums on page 549!

Honey & Beeswax Market Quotations.

Rules for Grading.

The following rules for grading honey were adopted by the North American Bee-Keepers' Association, in Washington, and, so far as possible, quotations are made according to these rules:

FANCY.—All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain, or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white." "No. 1 dark," etc.

CHICAGO, ILL.—Comb honey is coming in plentifully—most of it fancy and No. 1 white. White extracted scarce with plenty of inquiry for same. We quote: Fancy white, 16c.; No. 1 white 15c.; fancy amber, 14c.; No. 1 amber, 14c. Extracted, 5@7c. Beeswax slow at 20c.
Sept. 14, J. A. L.

CHICAGO, ILL., Sept. 15.—The receipts of comb honey have not been in excess of the demand up to this date. We have yet very little surplus. Prices remain at 15@16c. for the very best grades. Discolored combs and the darker grades generally are slow of sale at about 14c. Our sales, however, are chiefly at 15c. We consider this about the best season of the year for shipping and selling comb honey. It stands transportation better than it will when the cold weather comes, and people buy it in larger quantities than they do later in the fall. Extracted is nominal, some sales being made all the time at prices ranging from 6@7c., with some other dark goods a little lower. Beeswax salable at 22c. We would advise those having honey ready to ship, to send it forward during this month, or early next. R. A. B. & Co.

ST. PAUL, MINN., Oct. 9.—Our market for comb honey is improving, and receipts since our last report have moved off fairly well, prices unchanged. We quote best white comb honey 14@15c. for California. Extracted lower under free offerings from the coast; we quote 5½@6c. for white or amber in five-gallon tins. S. & A.

NEW YORK, N. Y., Oct. 10,—Comb honey is in fair demand for fancy stock. Supply is large. We quote: Fancy white, 14@15c. for 1-lb. and 12@13c. for 2-lb. sections. Demand for off grades is very light and slow selling at 12@12½c. for 1-lb. and 11c. for 2-lb. sections. Buckwheat scarce and in good demand at 11@12c. for 1-lb. and 10c. for 2-lb. sections.

The market on extracted is quiet, with plenty of supply. We quote: White clover and basswood, 6@6½c.; California, 5½@6c.; Southern, 65@70c. for choice and 55@60c. for common, per gallon. Beeswax is in fair demand at 23@25c. H. B. & S.

BOSTON, MASS., Oct. 9.—We quote honey as selling fairly well. Best white at 15c. Extracted, 6@7c. Beeswax, 25@28c. B. & R.

KANSAS CITY, MO.—We quote: No. 1 white, 16@17c.; No. 1 amber, 14@15c.; fancy dark, 12@13c.; No. 1 dark, 10@12c. Extracted, 6½@7c.; amber, 5½@6c.; dark, 5c. Beeswax, 17@18c. C.-M. C. Co.

KANSAS CITY, MO., Sept. 14.—Demand is good. Supply light. We quote: 1-lb. comb, 16c.; light weight, 14c. Extracted, white, 7½c.; amber, 6½c.; dark, 5@5½c.
Beeswax, 22@25c. H. & B.

ALBANY, N. Y., Oct. 26.—Honey market is firm, especially for medium grades of small comb, buckwheat and mixed honey being a scarcity of that grade. Fancy white selling at 15c.; mixed, 13@14c.; dark, 11@12c. Extracted slow, all grades.
Beeswax—26@28c. H. R. W.

CINCINNATI, O., Oct. 23.—Demand is fair for best white comb honey at 14@16c. There is a slow demand for extracted at 5@8c. Time killing demagogues seem to bear heavy on all kinds of manufacture.

Beeswax is in fair demand with plentiful arrivals at 20@23c. a pound for good to choice yellow. C. F. M. & S.

CHICAGO, ILL., Oct. 18.—The limited demand for comb honey does not permit our quoting it above 15c., with no sales of white selling below 14@14½c. The stock that we have received this year is of fine quality. Honey should be sent to market at once, so as to be received before the cold weather sets in. Extracted selling at 6@6½c.
Beeswax, 23c. S. T. F. & Co.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

J. A. LAMON, 44 and 46 So. Water St.
R. A. BURNETT & Co., 161 South Water Street.

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN, 28 & 30 West Broadway.
CHAS. ISRAEL & BROS., 110 Hudson St.

San Francisco, Calif.

SCHACHT, LEMCKE & STEINER, 10 Drumm St.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMONS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway.

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central ave

Please Send Us the Names of your neighbors who keep bees, and we will send them sample copies of the BEE JOURNAL. Then please call upon them and get them to subscribe with you, and secure some of the premiums we offer.

Read our great offers on page 549.